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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/418,119	10/14/1999	ANGSHUMAN SAHA	239604	8445

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EXAMINER	
PATHAK, SUDHANSHU C	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 11/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/418,119	SAHA ET AL.	
	Examiner	Art Unit	
	Sudhanshu C. Pathak	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *October 27th, 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-22 and 31-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) *20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *October 14th, 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 17-22 & 31-36 are pending in the application.

2. Claims 1-16, 23-30 & 37-41 have been canceled.

Claim Objections

3. Claim18 (dependent on claim17) is objected to because of the following:

The claim discloses "...the step of transmitting data.....from data transmitted by the second device.". However, in Claim 17 the data is transmitted form the first device (Claim 17, line 7). The claim rejection below is interpreted as the data is transmitted form the first device.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In regards to Claim 22, the claim on line 4 discloses "...received by a device is inconsistent across deserializers of ...". The specification does not disclose the

control word to be consistent across the deserializers i.e. all the parallel bits to have the same bit value i.e. be all 1's or all 0's.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 17 & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mullaney et al. (6,377,575).

In regards to Claim 17, Mullaney discloses a method for word synchronization between a plurality of word devices connected by a plurality of serial lines, comprising the steps of: requesting synchronization from a first device to a second device when the first device does not have synchronization (Abstract, lines 14-20 & Column 2, lines 18-28 & Column 12, lines 52-60) {Interpretation: The reference discloses a synchronization process between two devices wherein the transceiver is interpreted as a first device and the switch is interpreted as a second device. Furthermore, the reset word transmitted form the transceiver is interpreted as a request for synchronization so as to begin the process of (re-) synchronization or re alignment}; receiving a request for synchronization at a first device from a second device, the first device then becoming synchronized (Column 12, lines 60-62 & Column 13, lines 15-30) {Interpretation: The reference discloses the transceiver receives the alignment word and using the alignment words synchronizes itself};

transmitting data from a first device to a second device, the first device being synchronized, the first device having received from the second device a synchronization signal indicating that the second device is synchronized (Column 13, lines 31-37 & Column 1, lines 55-56) {Interpretation: The reference discloses the switch transmits an IDLE word to the transceiver once the switch is synchronized. The reference discloses once the devices are (re-) synchronized the process returns. The reference discloses receiving and transmitting data between the switch and transceiver}. However, the reference does not explicitly disclose transmitting data from the first device to the second device after re-synchronization. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that once synchronization is accomplished the devices return to communicating data between each other.

In regards to Claim 21, Mullaney discloses a method for word synchronization between a plurality of devices as described above. Mullaney further discloses detecting a bad control word at a first device from a second device; and requesting synchronization from a first device to a second device, the first device having received a bad control word from the second device (Column 13, lines 21-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Mullaney satisfies the limitations of the claims.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mullaney et al. (6,377,575) in view of Bock et al. (5,948,119).

In regards to Claim 18, Mullaney discloses a method for word synchronization between a plurality of devices as described above. However, Mullaney does not disclose the step of transmitting a start-of-packet indicator from data transmitted by the first device.

Bock discloses transmitting a start of packet indicator with the data stream (Claim 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Bock teaches transmitting / receiving a start of packet indicator and this is implemented in the method as described in Mullaney so as to indicate in the receiver a start of the packet so as to begin the receiver operations. Furthermore, as is disclosed in Claim 17, lines 5-6 "...receiving a request for synchronization at a first device...", therefore, it is inherent that the second device transmits a synchronization request for the first device to receive it.

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mullaney et al. (6,377,575) in view of Gindi et al. (4,103,336).

In regards to Claim 19, Mullaney discloses a method for word synchronization between a plurality of devices as described above. However, Mullaney does not disclose becoming unsynchronized one or more of the plurality of word devices in response to receiving a loss-of-synch signal.

Gindi discloses a method of communication in a serial loop, wherein the communication between multiple transceivers (Fig.'s 1, 3 & Column 8, lines 65-68 & Column 9, lines 1-6). Gindi also discloses a system of synchronization so as to accurately receive transmitted data (Column 7, lines 20-49). Gindi further discloses

transmitting a signal, from the transceiver detecting the loss of synchronization, over its transmitting serial channel to the remaining transceiver(s), wherein reception of the signal by either transceiver(s) causes its receiving serial channel to be desynchronized, where by a loss of synchronization in a receiving serial channel of a given transceiver is propagated to the remaining transceiver(s) receiving serial channel (Column 7, lines 52-68 & Column 8, lines 34-68 & Column 9, lines 1-45). Gindi further discloses transmitting a synchronizing signal from the initializing transceiver to another transceiver and if the synchronizing signal is received the synchronizing signal is again transmitted to the initializing transceiver (Column 7, lines 53-68 & Column 8, lines 1-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Gindi discloses a method of synchronization wherein a loss of synchronization in a receiving transceiver is received unsynchronizing one or more plurality of devices in response to receiving the loss of sync signal and this is implemented in the method as described in Mullaney so as to provide an accurate and stable synchronization for all the transceivers.

9. Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mullaney et al. (6,377,575) in view of Danielsons (6,400,415).

In regards to Claims 31-33, Mullaney discloses a method for detecting and adapting to a loss of word synchronization at a first word device, the first word device being synchronized and connected to a second word device by a plurality of serial lines (Abstract, lines 14-21 & Column 2, lines 18-30 & Column 12, lines 25-67

& Column 13, lines 20-46). However, Mullaney does not disclose the method comprising: becoming unsynchronized at the first device in response to serially receiving a threshold number of bad control words from the serial lines connected to the second device, except for a single condition that all bad control words received in the threshold number are separated by a synchronized data packet.

Danielsons discloses a method for synchronizing devices comprising method comprising: becoming unsynchronized at the first device in response to serially receiving a threshold number of bad control words from the serial lines connected to the second device, except for a single condition that all bad control words received in the threshold number are separated by a synchronized data packet (Column 8, lines 10-15, 28-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Danielsons teaches becoming unsynchronized at the first device in response to serially receiving a threshold number of bad control words from the serial lines connected to the second device, except for a single condition that all bad control words received in the threshold number are separated by a synchronized data packet and this is implemented in the method as described in Mullaney so as to provide a reliable indicator for a loss of synchronization so as to avoid unnecessary synchronization process and a reduction of data rate. Furthermore, there is no criticality in selecting the threshold number to one or greater than one this is a matter of design choice depending on the reliability of system, data rate and the speed of the data connection.

10. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mullaney et al. (6,377,575) in view of Danielsons (6,400,415) and further in view of Ducaroir et al. (6,167,077).

In regards to Claims 34-36, Mullaney in view of Danielsons discloses a method of synchronization as described above. However, Mullaney in view of Danielsons does not disclose the first word device and the second word device each include a plurality of serializers and deserializers; the serial lines connect the serializers of the first word device to the deserializers of the second word device and the serializers of the second word device to the deserializers of the first word device; and the serializers and the deserializers of the first and second devices satisfy a SERDES specification for control characters.

Ducaroir discloses a communications system comprising a base transceiver (first word device) and a remote transceiver (second word device) each comprising a plurality of serializers and deserializers; the serial lines connect the serializers of the first word device to the deserializers of the second word device and the serializers of the second word device to the deserializers of the first word device; and the serializers and the deserializers of the first and second devices satisfy a SERDES specification for control characters (Fig.'s 1-2, elements 110A-E, 115A-E, "A-E"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Ducaroir teaches the first word device and the second word device each include a plurality of serializers and deserializers; the serial lines connect the serializers of the first word device to the deserializers of the second word device and

the serializers of the second word device to the deserializers of the first word device; and the serializers and the deserializers of the first and second devices satisfy a SERDES specification for control characters and this is implemented in the method as described in Mullaney in view of Danielsons so as to provide an integrated circuit implementation of a communication system so as to transmit data in parallel over a plurality of serial lines thus increasing the data rate of the communications system. Furthermore, there is no criticality in selecting the threshold number to one or greater than one this is a matter of design choice depending on the reliability of system, data rate and the speed of the data connection.

Allowable Subject Matter

11. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

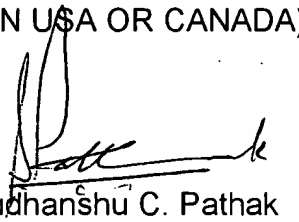
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, it is recommended to the applicant to amend all the claims so as to be patentable over the cited prior art of record. A detailed list of pertinent references is included with this Office Action (See Attached "Notice of References Cited" (PTO-892)).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571)-272-3042.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sudhanshu C. Pathak
Examiner
Art Unit 2611